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Solution of grandfather's paradox using "AND" logic gate

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The attempt of this research paper is to deliver a logical result of the famous grandfather's paradox using logic gate.

Points considered for getting the result:

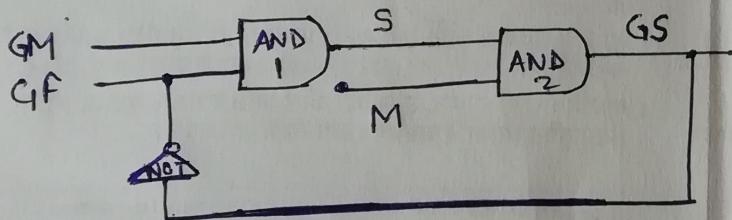
1. Human reproduce, hence need male and female. Therefore in order to get a "offspring", male and female (parents) act as a logical "AND" gate.

Description: The grandfather and grandmother reproduce to give birth to their "son" [logical AND]. The "son" reproduces with a female (wife) to give birth to their "son". [grandson to grandfather]. Father & mother act as another logical "AND" gate. The "son" then uses time machine to travel to past and kill the grandfather. So this killing of grandfather is a logical "NOT" gate that this forms a feedback loop (system). Assuming that whenever the feedback is logically "HIGH" state cause the logical state of Grandfather to become logically "LOW".

$$\begin{array}{ll} GF = \text{Grand Father} & \text{Father} = F \\ GM = \text{Grand Mother} & \text{Mother} = M \end{array}, H = \text{logical High}$$

$$L = \text{logical Low.}$$

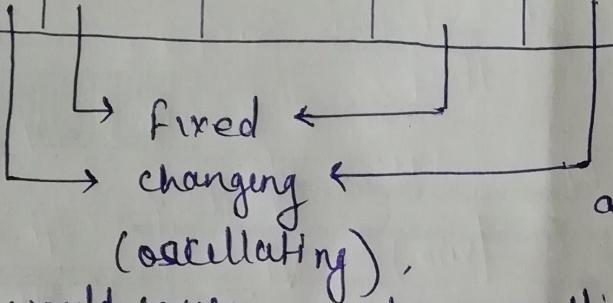
So, the circuit formed becomes;



* Initially, $GF = \text{High}$, $GM = \text{HIGH}$ causes $S = \text{HIGH}$, M is given HIGH $M = \text{HIGH}$, causes $GS = \text{High}$, a logical high causes the GF (first time)

to become low. (killing effect), this causes AND gate ① to become low (son ~~not~~ father dies), but M is still high, causes AND gate ② to become "low" that is grand son dies (during the second time loop). $GS = \text{low}$ causes GF to become high, hence $\text{AND}_1 = \text{High} = S$, $M = \text{HIGH}$ (Grandmother, mother state is fixed as we are only killing the grandfather). Hence $\text{AND}_2 = \text{High} = GS = \text{High}$. So we can see that output & input keep changing the state (flip-flop). High = alive, Low = dead.

loop	GF	GM	S	M	GS
T ₁	1	1	1	1	1
T ₂	0	1	0	1	0
T ₃	1	1	1	1	1
T ₄	0	1	0	1	0
⋮	⋮	⋮	⋮	⋮	⋮



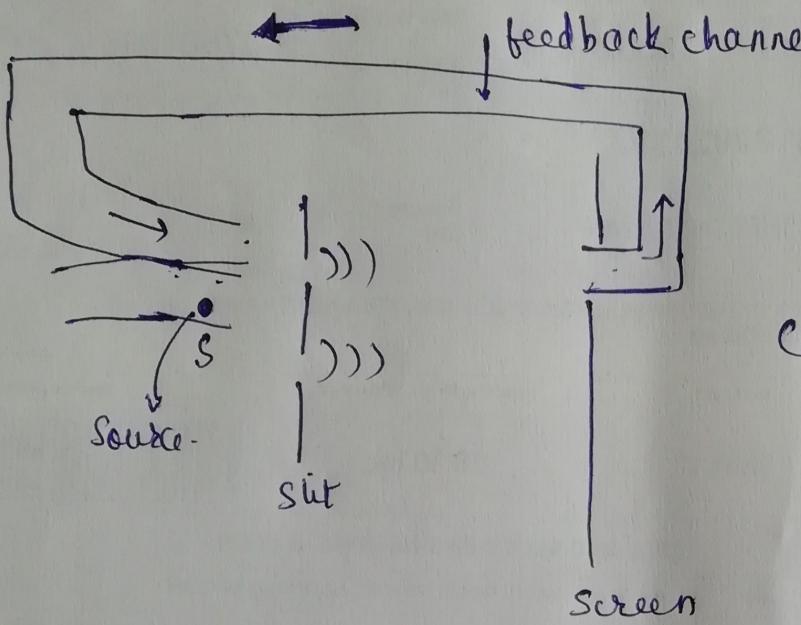
As we can see GF, GS oscillate periodically.

This result only holds true when we consider one family in three generations. A general case of billions of human history population would be 'N'-logical AND at N-times in N-sequence of random sequence. Hence for a big population, the overall state would be random as only any change in one logical (oscillating).

State would cause chain reaction in other logical states (domino effect), hence the output of the N-logical gates at N-times (cascade) would be unpredictable and a race around condition would arise. (undeterministic future). (unpredictable). It's chaotic (random). Every time a small change occurs, output of overall system would change drastically. This problem can be understood in the Hitler-Einstein paradox. Since Einstein gave letter to US president to build atom bomb, suppose Hitler has a time machine to go back and kill Einstein to prevent atom bomb from being constructed. But killing Einstein would mean no special relativity, no general relativity and hence no time machine. One action has infinite short and long term and distant reactions/consequences/effects/repercussion-. Affects will be there in all directions much like a ~~hand~~ drop in a pool travels. This logical way gives a idea of predicting an alternative history having active people (actors) but true result can't be obtained as we don't know all the actors as we don't know who will act when and where and how. (we are all black boxes)

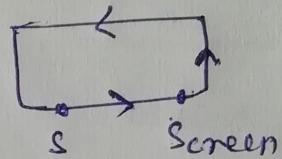
The grandfather paradox can be formulated in a experiment similar to double slit experiment with feedback path and then find how the output changes.

(*) signal from screen to slit as feedback, but signal from slit to screen via feedback channel is denied (only this case) (unidirectional path)



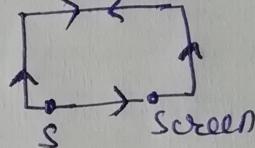
Case)

i)



(future to past)

ii)



Screen